

## PATENT COOPERATION TREATY

8

## PCT

NOTIFICATION OF THE RECORDING  
OF A CHANGE(PCT Rule 92bis.1 and  
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

TAKAMATSU, Takeshi  
Eikoh Patent Office  
7-13, Nishi-Shimbashi 1-chome  
Minato-ku, Tokyo 1050003  
Japan

Date of mailing (day/month/year) 11 July 2006 (11.07.2006)	<b>IMPORTANT NOTIFICATION</b>
Applicant's or agent's file reference P040605P0	
International application No. PCT/JP2006/302780	International filing date (day/month/year) 10 February 2006 (10.02.2006)

## 1. The following indications appeared on record concerning:

☐ the applicant    ☐ the inventor    ☒ the agent    ☐ the common representative

## Name and Address

TAKAMATSU, Takeshi  
Eikoh Patent Office  
13th Floor, ARK Mori Building  
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## State of Nationality

## State of Residence

## Telephone No.

03-5561-3990

## Facsimile No.

03-5561-3995

## Teleprinter No.

## 2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☐ the person    ☐ the name    ☒ the address    ☐ the nationality    ☐ the residence

## Name and Address

TAKAMATSU, Takeshi  
Eikoh Patent Office  
7-13, Nishi-Shimbashi 1-chome  
Minato-ku, Tokyo 1050003  
Japan

## State of Nationality

## State of Residence

## Telephone No.

03-6203-9500

## Facsimile No.

03-6203-9607

## Teleprinter No.

## 3. Further observations, if necessary:

## 4. A copy of this notification has been sent to:

☒ the receiving Office    ☐ the designated Offices concerned  
☐ the International Searching Authority    ☐ the elected Offices concerned  
☐ the International Preliminary Examining Authority    ☐ other:

<b>The International Bureau of WIPO</b> 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. (41-22) 338.70.10	Authorized officer Yuichiro AIDA (Fax 338 7010) Telephone No. (41-22) 338 8994
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# PATENT COOPERATION TREATY

10/593,385

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

REC'D	24 MAY 2006
WIPO	PCT

## PCT

see form PCT/ISA/220

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**  
(PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/JP2006/302780

International filing date (day/month/year)  
10.02.2006

Priority date (day/month/year)  
15.02.2005

International Patent Classification (IPC) or both national classification and IPC  
INV. H01L21/00 H01J37/32 H01L21/677 H05K13/02

Applicant  
MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office - P.B. 5818 Patentlaan 2  
NL-2280 HV Rijswijk - Pays Bas  
Tel. +31 70 340 - 2040 Tx: 31 651 epo nl  
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Date of completion of  
this opinion

see form  
PCT/ISA/210

Authorized Officer

De Kroon, A

Telephone No. +31 70 340-3514



**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/JP2006/302780

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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of:
  - ☒ the international application in the language in which it was filed
  - ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1 (b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ on paper
    - ☐ in electronic form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in electronic form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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**Box No. II Priority**

---

1. ☒ The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43*bis*.1 and 64.1) is the claimed priority date.
2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/JP2006/302780

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**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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**1. Statement**

Novelty (N)	Yes: Claims	1,2
	No: Claims	
Inventive step (IS)	Yes: Claims	2
	No: Claims	1
Industrial applicability (IA)	Yes: Claims	1,2
	No: Claims	

**2. Citations and explanations**

**see separate sheet**

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**Box No. VIII Certain observations on the international application**

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The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**see separate sheet**

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

1. Reference is made to the following documents:

**D1** = US 5 823 416 A

**D2** = US 5 443 689 A

2. The present application does not meet the criteria of Article **33(1)** PCT, because the subject matter of independent claim **1** does not involve an inventive step in the sense of Article **33(3)** PCT.

- 2.1 Document **D1**, which is considered to represent the most relevant state of the art to the subject matter of claim **1**, discloses (the references in parentheses applying to this document):

A plasma treatment apparatus (abstract; c.f. column 3, lines 54-62; c.f. fig. 1 (12,13) and fig. 12) for plasma treating a surface of a substrate in a treatment chamber, comprising: a base portion which forms a bottom portion of the treatment chamber (column 3, lines 23-33; c.f. figures 1 and 12 (12)); a box shaped member with its lower surface side open and a lower end portion abuts against a base surface on top of the base portion so as to form the treatment chamber (column 3, lines 37-45; c.f. figures 1 and 12 (13)); an electrode section which is fitted on the base portion through an insulator and whose upper surface is exposed in the treatment chamber (column 6, line 60, to column 7, line 8; c.f. column 8, lines 10-17; c.f. figures 8 and 9 (34)); a substrate mounting portion whose upper surface is covered with a ceramic (column 7, lines 33-45; c.f. fig. 12 (6,40,41) and figures 8 and 9 (40,41)); plasma generating means for generating a plasma for plasma treatment in the treatment chamber (column 9, line 3, to column 10, line 50; c.f. figures 12 (19,61,64) and 13); a plurality of bar-shaped ceramic guide members which are disposed on the upper surface of the substrate mounting portion along a substrate transporting direction and are adapted to guide side end surfaces of the substrate mounted on the substrate mounting portion (column 7, lines 33-45; c.f. figures 8 and 9 (40,41)); and guide member holding means for holding longitudinal both

end portions of the guide members (column 7, lines 33-45; figures 8 and 9 (12,12c,42)), wherein the guide member holding means includes: a pair of fixed members which are fixedly disposed on the base portion in a transverse direction being at a right angle to the substrate transporting direction along outer edges of the substrate mounting portion (column 7, lines 33-35; c.f. figures 8 and 9 (both side end members of the treatment area A of the base 12 in the direction of the transport path L), and fitting means (column 7, lines 35-39; c.f. figures 8 and 9 (12c,42)) such that the interval in the transverse direction is adjustable (column 7, lines 42-44).

2.2 The subject-matter of independent claim 1 differs from the disclosure of **D1** in that:

The substrate mounting portion constitutes an upper portion of said electrode section, and both the end portions of said guide members are supported by a plurality of supporting members whose position in the substrate transporting direction is given by the fixed members and who are fitted to said fixed members by said fitting means.

2.3 The problem to be solved by the present invention may therefore be regarded as

How to provide a plasma treatment system adapted for extremely thin substrates in which the guide members are not liable to mechanical failure due to thermal stress.

2.4 The solution proposed in claim 1 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

Document **D2** discloses in the same technical field as the application a plasma treatment chamber adapted for plasma treating thin electronic substrates (abstract; c.f. column 1, lines 9-20). The substrate to be plasma treated in document **D2** is directly mounted on a ceramic coated and grooved bottom electrode specially design-ed to facilitate both close thermal contact between the substrate and the bottom electrode of the plasma treatment chamber (column 1, lines 56-68; c.f. fig. 4 (2,3,4)) and a safe removal of the cleaned substrate from the bottom electrode of the plasma treatment chamber after the plasma treatment (column 3, lines 7-63; c.f. figure 1A (2,3,4)). Since further miniaturisation is a well-known feature of microelectronic manufacturing, and the person skilled in the art would expect the disadvantages ascribed to the prior art in document **D2** (column 2, lines 28-31) to thereby increase, he would find it obvious to include the

teachings of document **D2** into the disclosure of document **D1** to allow for the plasma treatment of thin electronic substrates. The ceramic guides as disclosed in document **D1** would thereby no longer carry an electronic substrate, and together with the understanding that any hole in any structural ceramic acts as a stress concentrator, he would find it obvious to remove any hole from the ceramic guides and to place them on top of a stabilising support located at the same position.

- 2.5 Therefore the features disclosed in the documents **D1** and **D2** would be combined by the skilled person, without exercise of any inventive skills in order to solve the problem posed. The proposed solution in independent claim **1** thus cannot be considered inventive (Article **33(3)** PCT).

3. The combination of the features of dependent claim **2** is neither known from, nor rendered obvious by, the available prior art. The reasons are as follows:

Neither document **D1** nor document **D2** disclose or fairly suggest additionally fitting a ceramic guide into a groove cut in the surface of the bottom electrode of the plasma treatment chamber to prevent jamming of a thin electronic substrate in the space between the bottom electrode of the plasma treatment chamber, which functions as the substrate mount, and a ceramic guide, as a consequence of removing all the tightening bolts from the ceramic guide.

4. The subject-matter of the claims **1-2** is industrially applicable as a surface treatment apparatus in the field of microelectronic manufacturing (Article **33(4)** PCT).

#### **Re Item VIII**

#### **Certain observations on the international application**

1. The subject-matter of claim **2** is unclear because separately fixed and movable guide members have not been defined in the independent claim **1** to which claim **2** refers. Therefore, "... the guide member ..." as described in claim **2** has not been previously defined, and a notch "... formed continuously in a longitudinal direction on the bottom of **each of** the rectangular bar-shaped guide members ..." is inconsistent with the description (compare fig. 4 (12) with fig. 5 (13)). In addition, the notched portion in the

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING  
AUTHORITY (SEPARATE SHEET)

International application No.

PCT/JP2006/302780

"... bottom of the guide member ...", having a "... dimension (see fig. 5A (b)) larger than a widthwise dimension of the substrate (see fig 3 (Y)) ..." is inconsistent with the description (compare fig. 5A (b) to fig. 5B (t)). The term "widthwise" could, by way of example, be replaced by the term "**thickness**".



10/592,385

## PATENT COOPERATION TREATY

## PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference P040605P0	FOR FURTHER ACTION		See item 4 below
International application No. PCT/JP2006/302780	International filing date (day/month/year) 10 February 2006 (10.02.2006)	Priority date (day/month/year) 15 February 2005 (15.02.2005)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.			

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).

2. This REPORT consists of a total of 8 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

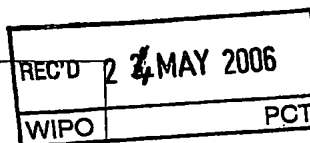
- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Box No. I    | Basis of the report   |
| <input checked="" type="checkbox"/> Box No. II   | Priority  |
| <input type="checkbox"/> Box No. III             | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| <input type="checkbox"/> Box No. IV              | Lack of unity of invention  |
| <input checked="" type="checkbox"/> Box No. V    | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> Box No. VI              | Certain documents cited   |
| <input type="checkbox"/> Box No. VII             | Certain defects in the international application  |
| <input checked="" type="checkbox"/> Box No. VIII | Certain observations on the international application   |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland  Facsimile No. +41 22 338 82 70	Date of issuance of this report 21 August 2007 (21.08.2007)
	Authorized officer  Masashi Honda  e-mail: pt08.pct@wipo.int

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY



# PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY  
(PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/JP2006/302780

International filing date (day/month/year)  
10.02.2006

Priority date (day/month/year)  
15.02.2005

International Patent Classification (IPC) or both national classification and IPC  
INV. H01L21/00 H01J37/32 H01L21/677 H05K13/02

Applicant  
MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.

**1. This opinion contains indications relating to the following items:**

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

**2. FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

**3. For further details, see notes to Form PCT/ISA/220.**

Name and mailing address of the ISA:



European Patent Office - P.B. 5818 Patentlaan 2  
NL-2280 HV Rijswijk - Pays Bas  
Tel. +31 70 340 - 2040 Tx: 31 651 epo nl  
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Date of completion of  
this opinion

see form  
PCT/ISA/210

Authorized Officer

De Kroon, A

Telephone No. +31 70 340-3514



**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/JP2006/302780

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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of:
  - ☒ the international application in the language in which it was filed
  - ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1 (b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ on paper
    - ☐ in electronic form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in electronic form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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**Box No. II Priority**

---

1. ☒ The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43bis.1 and 64.1) is the claimed priority date.
2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/JP2006/302780

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**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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**1. Statement**

Novelty (N)	Yes: Claims	1,2
	No: Claims	
Inventive step (IS)	Yes: Claims	2
	No: Claims	1
Industrial applicability (IA)	Yes: Claims	1,2
	No: Claims	

**2. Citations and explanations**

**see separate sheet**

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**Box No. VIII Certain observations on the international application**

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The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**see separate sheet**

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

1. Reference is made to the following documents:

**D1** = US 5 823 416 A  
**D2** = US 5 443 689 A

2. The present application does not meet the criteria of Article **33(1)** PCT, because the subject matter of independent claim **1** does not involve an inventive step in the sense of Article **33(3)** PCT.

- 2.1 Document **D1**, which is considered to represent the most relevant state of the art to the subject matter of claim **1**, discloses (the references in parentheses applying to this document):

A plasma treatment apparatus (abstract; c.f. column 3, lines 54-62; c.f. fig. 1 (12,13) and fig. 12) for plasma treating a surface of a substrate in a treatment chamber, comprising: a base portion which forms a bottom portion of the treatment chamber (column 3, lines 23-33; c.f. figures 1 and 12 (12)); a box shaped member with its lower surface side open and a lower end portion abuts against a base surface on top of the base portion so as to form the treatment chamber (column 3, lines 37-45; c.f. figures 1 and 12 (13)); an electrode section which is fitted on the base portion through an insulator and whose upper surface is exposed in the treatment chamber (column 6, line 60, to column 7, line 8; c.f. column 8, lines 10-17; c.f. figures 8 and 9 (34)); a substrate mounting portion whose upper surface is covered with a ceramic (column 7, lines 33-45; c.f. fig. 12 (6,40,41) and figures 8 and 9 (40,41)); plasma generating means for generating a plasma for plasma treatment in the treatment chamber (column 9, line 3, to column 10, line 50; c.f. figures 12 (19,61,64) and 13); a plurality of bar-shaped ceramic guide members which are disposed on the upper surface of the substrate mounting portion along a substrate transporting direction and are adapted to guide side end surfaces of the substrate mounted on the substrate mounting portion (column 7, lines 33-45; c.f. figures 8 and 9 (40,41)); and guide member holding means for holding longitudinal both

end portions of the guide members (column 7, lines 33-45; figures 8 and 9 (12,12c,42)), wherein the guide member holding means includes: a pair of fixed members which are fixedly disposed on the base portion in a transverse direction being at a right angle to the substrate transporting direction along outer edges of the substrate mounting portion (column 7, lines 33-35; c.f. figures 8 and 9 (both side end members of the treatment area A of the base 12 in the direction of the transport path L), and fitting means (column 7, lines 35-39; c.f. figures 8 and 9 (12c,42)) such that the interval in the transverse direction is adjustable (column 7, lines 42-44).

2.2 The subject-matter of independent claim 1 differs from the disclosure of **D1** in that:

The substrate mounting portion constitutes an upper portion of said electrode section, and both the end portions of said guide members are supported by a plurality of supporting members whose position in the substrate transporting direction is given by the fixed members and who are fitted to said fixed members by said fitting means.

2.3 The problem to be solved by the present invention may therefore be regarded as

How to provide a plasma treatment system adapted for extremely thin substrates in which the guide members are not liable to mechanical failure due to thermal stress.

2.4 The solution proposed in claim 1 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

Document **D2** discloses in the same technical field as the application a plasma treatment chamber adapted for plasma treating thin electronic substrates (abstract; c.f. column 1, lines 9-20). The substrate to be plasma treated in document **D2** is directly mounted on a ceramic coated and grooved bottom electrode specially design-ed to facilitate both close thermal contact between the substrate and the bottom electrode of the plasma treatment chamber (column 1, lines 56-68; c.f. fig. 4 (2,3,4)) and a safe removal of the cleaned substrate from the bottom electrode of the plasma treatment chamber after the plasma treatment (column 3, lines 7-63; c.f. figure 1A (2,3,4)). Since further miniaturisation is a well-known feature of microelectronic manufacturing, and the person skilled in the art would expect the disadvantages ascribed to the prior art in document **D2** (column 2, lines 28-31) to thereby increase, he would find it obvious to include the

teachings of document **D2** into the disclosure of document **D1** to allow for the plasma treatment of thin electronic substrates. The ceramic guides as disclosed in document **D1** would thereby no longer carry an electronic substrate, and together with the understanding that any hole in any structural ceramic acts as a stress concentrator, he would find it obvious to remove any hole from the ceramic guides and to place them on top of a stabilising support located at the same position.

- 2.5 Therefore the features disclosed in the documents **D1** and **D2** would be combined by the skilled person, without exercise of any inventive skills in order to solve the problem posed. The proposed solution in independent claim **1** thus cannot be considered inventive (Article **33(3)** PCT).

3. The combination of the features of dependent claim **2** is neither known from, nor rendered obvious by, the available prior art. The reasons are as follows:

Neither document **D1** nor document **D2** disclose or fairly suggest additionally fitting a ceramic guide into a groove cut in the surface of the bottom electrode of the plasma treatment chamber to prevent jamming of a thin electronic substrate in the space between the bottom electrode of the plasma treatment chamber, which functions as the substrate mount, and a ceramic guide, as a consequence of removing all the tightening bolts from the ceramic guide.

4. The subject-matter of the claims **1-2** is industrially applicable as a surface treatment apparatus in the field of microelectronic manufacturing (Article **33(4)** PCT).

#### **Re Item VIII**

#### **Certain observations on the international application**

1. The subject-matter of claim **2** is unclear because separately fixed and movable guide members have not been defined in the independent claim **1** to which claim **2** refers. Therefore, "... the guide member ..." as described in claim **2** has not been previously defined, and a notch "... formed continuously in a longitudinal direction on the bottom of **each of** the rectangular bar-shaped guide members ..." is inconsistent with the description (compare fig. 4 (12) with fig. 5 (13)). In addition, the notched portion in the

"... bottom of the guide member ...", having a "... dimension (see fig. 5A (b)) larger than a widthwise dimension of the substrate (see fig 3 (Y)) ..." is inconsistent with the description (compare fig. 5A (b) to fig. 5B (t)). The term "widthwise" could, by way of example, be replaced by the term **"thickness"**.